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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/538,469	03/29/00	OGAWA	K Q58486

MM41/0607  
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EXAMINER

HA, N

ART UNIT PAPER NUMBER

2814

DATE MAILED: 06/07/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

<b>Office Action Summary</b>	Application No. 09/538,469	Applicant(s) OGAWA ET AL.	
	Examiner Nathan Ha	Art Unit 2814	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

- |   |  |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 20) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Zavrel, Jr. et al. (US. 6,218,729 B1)

In regard to claims 1-2, 4, 9-10, 14-15, in figs 3 and 8-9, Zavrel discloses a printed wiring substrate 822 having a built-in capacitor 804 on which an IC chip 820 is mounted. The capacitor comprises

a pair of electrodes 860, 862; and

a plurality of capacitor terminals 810, 812, wherein the respective capacitor terminals are electrically connected to one or the other paired electrodes, figs. 8-9;

the printed wiring substrate 822 comprises a plurality of substrate terminals, for example, 844, 840;

the IC chip 820 comprises a plurality of connection-to-capacitor terminals 828 and plurality of connection-to-substrate terminals, also labeled as 828, on the right side of fig. 8;

the plurality of capacitor terminals of the capacitor are respectively flip-chip-bonded to a plurality of connection-to-capacitor terminals of the IC chip, see fig. 8; and

the plurality of the substrate terminals of the printed wiring substrate are respectively flip-chip-bonded to a plurality of connection-to-substrate terminals of the IC chip.

In regard to claim 3, the IC-chip-carrying printed wiring substrate is a CSP adapted for mounting an IC chip, see col. 2, first paragraph, and fig. 8.

In regard to claim 5, see col. 3, first paragraph, see also fig. 8.

In regard to claim 6, see above discussion of claim 1, further see fig. 8, the plurality of capacitor terminals and the plurality of substrate terminals are substantially coplanar.

In regard to claims 7-8, see fig. 9.

In regard to claims 11-12, see fig. 9.

In regard to claim 13, in fig. 8, the balls 830 is used for connecting to another circuit substrate, inherently.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Ha whose telephone number is (703) 305-3507. The examiner can normally be reached on M-F 9:00-5:00(EST).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers

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for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and 308-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Nathan Ha  
May 29, 2001

  
Olik Chaudhuri  
Supervisory Patent Examiner  
Technology Center 2800